

TBME: A Retrospective

IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING (TBME), as the oldest biomedical engineering (BME) journal, will soon welcome its 66th year. In a few weeks, I will complete the maximum term as the Editor-in-Chief of TBME. It has been a great pleasure to have held this role over the past six years, serving the BME profession. I am happy to see that this journal has not only kept pace with the rapidly changing world but also continues to reflect and contribute to the advances of the BME field. The journal is in a healthy state, with good turn-around time (32.3 days on average over the past six years from submission to first decision) and substantially improved impact metrics. Over its 60+ years of existence, TBME's impact factor has exceeded 3.0 for the first time, and reached a historical high of 4.288 according to the latest available data. Most importantly, TBME has proven itself to be the primary general BME journal that serves the BME profession and the larger scientific community.

Reflecting on what we have undertaken over the past six years, two initiatives are notable. In the rapidly changing BME profession as well as the world, a fast response to a submission is necessary to serve the interests of all involved in the process, especially the authors. We have made substantial efforts to continuously improve the turn-around time of the review process. Thanks to the dedication of the editorial board and the cooperation of numerous reviewers, as well as the understanding of authors, we were able to reduce the average time of submission-to-first-decision (for papers) from 45.7 days in 2012 to 32.3 days averaged over the past 6 years. In order to publish only high quality papers that significantly impact the BME field and the larger society, we have attempted to select works that report comprehensive studies of significant biomedical problems using engineering innovation, with demonstrated promise in experimental settings. More experimental results have been expected during the review process, and difficult decisions have often had to be made to select the papers that make the most impact. In this regard, I thank the editors, the reviewers, and the authors for their efforts and understanding. As a result of this editorial policy, the acceptance rate of TBME has decreased from 23.0% in 2012 to 16.1% over the past 12 months. This is not the result of a targeted acceptance rate but the natural outcome of implementing the aforementioned editorial policy, which may explain the substantial improvement of impact metrics in the recent years.

The total citation count for TBME has been strong for many years compared to other journals, and has recently significantly improved. According to the 2017 Journal Citation Reports (JCR), the total citation count for TBME reached a

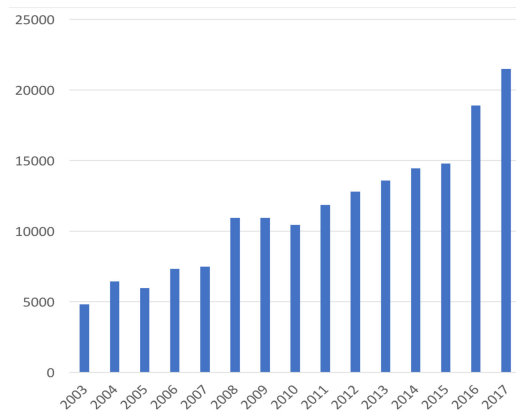


Fig. 1. The annual citation counts of TBME.

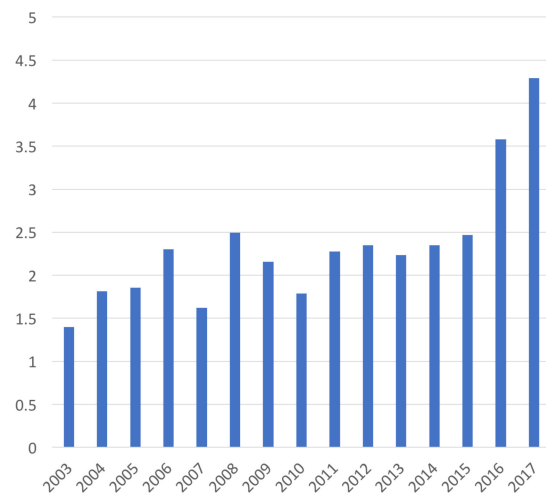


Fig. 2. The impact factor of TBME over the past 15 years.

new historical high of 21,498. Compared to 2012, this number increased by 68% while the total published papers decreased by 27%. Fig. 1 illustrates the annual total citation count of TBME over the past 15 years. With cited half-life being 9.2 in 2017, TBME publications demonstrate sustainable influence in the BME field.

While it is debatable whether the impact factor is an appropriate metric to assess a journal's impact, it is frequently used as a proxy for the relative importance of a journal within its field. The impact factor of TBME has increased to 4.288, reflecting a 92% increase since 2013. Fig. 2 illustrates the impact factor of TBME over the past 15 years. According to JCR, TBME's impact factor was ranked at the top 67th percentile in 2012 and improved to the 89th percentile in 2017, when compared with

all other BME journals. In addition to impact factor, TBME achieved the following: a historically high CiteScore of 5.0; an Immediacy Index of 1.007 in 2017 increasing from 0.406 in 2012; the H5-index reached a ranking of No. 3 by Google Scholar among biomedical technology journals; and the H-index reached a ranking of No. 7 by SJR among all biomedical engineering journals. These strong metrics, all together, reflect the high quality of work published in TBME and the significant interest garnered from the community.

These achievements would not have been possible without a team of outstanding colleagues. Without their support, the journal would not have come this far. I am deeply grateful to all the editors and editorial board members who sacrificed their evenings, weekends and vacation time to lead the reviews of a large number of submissions. A very special thanks also goes to the numerous reviewers who contributed their time and expertise, and to the authors who submitted their best work to the journal. I am also indebted to Wendy Ye, the Managing Editor of TBME, for her tireless efforts in keeping the journal running smoothly on a daily basis. Appreciations also go to the members

of the TBME Scientific Advisory Board for advice, as well as to the IEEE/EMBS committees and staff for support and collaboration. It is the collective dedication and contributions of everyone that have led to the notable changes.

I would like to ask you to continuously contribute to the journal and support Xiaochuan Pan, the incoming Editor-in-Chief, and the TBME team. Professor Pan is a renowned scholar, and has been an author, reviewer and editor of TBME for many years. I believe Professor Pan and his new editorial team will bring in new ideas and lead the journal to new heights. This is a most exciting time for the field of BME and TBME. The future is bright.

My best wishes to the journal and to everyone! Happy New Year!

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